

REMARKS

I. Formalities

Claims 1-5 and 7-12 remain in the subject patent application. Claims 1 and 12 are amended and claims 13-20 and 22-27 are canceled herein. Claims 6, 21, and 28-42 were canceled in an earlier paper. No claims are added herein. Support for the amendments to claims 1 and 12 can be found at least in paragraph [0031]. Accordingly, Applicant respectfully submits that no new matter is added herein.

II. Response to the 35 U.S.C. §103 Rejections

Claims 1, 2, 4, 5, 8, 10, 11, 13, 14, 16-20, 23, 25, and 26 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over U.S. Patent Application Publication 2003/0157782 to Kellar et al. (hereinafter “Kellar”). Claims 3 and 15 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kellar in view of U.S. Patent Application Publication 2004/0157407 to Tong et al. (hereinafter “Tong”). Claims 7, 12, 22, and 27 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kellar in view of U.S. Patent Application Publication 2004/0226464 to Mirkin et al. (hereinafter “Mirkin”). Claims 9 and 24 were rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Kellar in view of U.S. Patent Application Publication 2002/0027294 to Neuhaus et al. (hereinafter “Neuhaus”). These rejections are respectfully traversed in view of the remarks made below.

In order for the Examiner to establish a *prima facie* case of obviousness, three base criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference or references must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant’s disclosure. M.P.E.P. §2142 (citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed.Cir. 1991)).

A. Remarks Directed to Claim 1

Claim 1 has been amended herein such that it now explicitly requires the deposition of the metal layer only on the conductors disposed on the surface of the first wafer such that the conductors disposed on the surface of the second wafer do not have a metal layer deposited thereon. This amendment to claim 1 is supported at least by paragraph [0031] of the originally-filed patent application.

Kellar fails to teach or suggest the stated limitation of amended claim 1. Instead, Kellar clearly teaches, in both the figures and the text, that a metal bonding layer is deposited onto both first and second wafers. (*See*, e.g., FIGs. 2, 3, and 6 and paragraphs 23 and 25 of Kellar.)

Based on the foregoing, Applicant respectfully submits that amended claim 1 is allowable. Withdrawal of the 35 U.S.C. §103 rejection of amended claim 1, and allowance of the claim, is therefore respectfully requested.

B. Remarks Directed to Claims 2, 4, 5, 8, 10, 11, 13, 14, 16-20, 23, 25, and 26

Dependent claims must be construed to include all of the limitations of the claims from which they depend, as required by 37 C.F.R. 1.75(c) and M.P.E.P. 608.01(n). Therefore, claims 2, 4, 5, 8, 10, and 11, all of which depend from amended claim 1, are also not taught or suggested by Kellar for at least the same reasons as listed earlier for amended claim 1. Accordingly, Applicant respectfully submits that claims 2, 4, 5, 8, 10, and 11 are allowable at least because of their dependence from an allowable claim. Withdrawal of the 35 U.S.C. §102 rejections of claims 2, 4, 5, 8, 10, and 11, and allowance of the claims, is therefore respectfully requested. Claims 13, 14, 16-20, 23, 25, and 26 have been canceled herein.

C. Remarks Directed to Claims 3 and 15

The amendments made herein to claim 1 were discussed above, along with Applicant's assertion that Kellar fails to teach or suggest those amendments. It is now respectfully submitted that Tong likewise fails to teach or suggest the limitations of amended claim 1. In particular, Tong teaches a chemical bonding of non-metal regions of

the wafers being bonded together rather than bonding using a metal layer as required by claim 1 (*see, e.g.,* paragraphs 49-50 of Tong). Accordingly, it is respectfully submitted that claim 1 is allowable over Tong in addition to being allowable over Kellar.

Because claim 3 depends from claim 1, and because dependent claims must be construed to include all of the limitations of the claims from which they depend, as discussed above, Applicant respectfully submits that claim 3 is allowable based at least in part on its dependence from an allowable claim. Withdrawal of the 35 U.S.C. §103 rejection of claim 3, and allowance of the claim, is therefore respectfully requested. Claim 15 has been canceled herein.

D. Remarks Directed to Claims 7, 12, 22, and 27

The amendments made herein to claim 1 were discussed above, along with Applicant's assertion that Kellar fails to teach or suggest those amendments. It is now respectfully submitted that Mirkin likewise fails to teach or suggest the limitations of amended claim 1. In particular, Mirkin teaches a method of forming a microscopy probe that involves the formation of a sacrificial layer that may be removed from a reusable substrate thus allowing the probe to be removed (*see, e.g.,* paragraphs 42-43 and the Abstract of Mirkin). Accordingly, it is respectfully submitted that claim 1 is allowable over Mirkin in addition to being allowable over Kellar.

Because claim 7 depends from claim 1, and because dependent claims must be construed to include all of the limitations of the claims from which they depend, as discussed above, Applicant respectfully submits that claim 7 is allowable based at least in part on its dependence from an allowable claim. Withdrawal of the 35 U.S.C. §103 rejection of claim 7, and allowance of the claim, is therefore respectfully requested. Claims 22 and 27 have been canceled herein.

Like claim 1, claim 12 has been amended herein such that it now explicitly requires the deposition of the metal layer only on the conductors disposed on the surface of the first wafer such that the conductors disposed on the surface of the second wafer do not have a metal layer deposited thereon. This amendment to claim 12 is supported at least by paragraph [0031] of the originally-filed patent application.

Both Kellar and Mirkin fail to teach or suggest the stated limitation of amended claim 12, as has been discussed herein in connection with claim 1. Based on the foregoing, Applicant respectfully submits that amended claim 12 is allowable. Withdrawal of the 35 U.S.C. §103 rejection of amended claim 12, and allowance of the claim, is therefore respectfully requested.

E. Remarks Directed to Claims 9 and 24

The amendments made herein to claim 1 were discussed above, along with Applicant's assertion that Kellar fails to teach or suggest those amendments. It is now respectfully submitted that Neuhaus likewise fails to teach or suggest the limitations of amended claim 1. In particular, Neuhaus teaches a method of joining together metal surfaces involving the use of hard particles that penetrate a non-conductive adhesive layer and pierce at least one of the metal surfaces (*see*, e.g., paragraphs 22 and 54 and the Abstract of Neuhaus). Accordingly, it is respectfully submitted that claim 1 is allowable over Neuhaus in addition to being allowable over Kellar.

Because claim 9 depends from claim 1, and because dependent claims must be construed to include all of the limitations of the claims from which they depend, as discussed above, Applicant respectfully submits that claim 9 is allowable based at least in part on its dependence from an allowable claim. Withdrawal of the 35 U.S.C. §103 rejection of claim 9, and allowance of the claim, is therefore respectfully requested. Claim 24 has been canceled herein.

CONCLUSION

Applicant has made an earnest attempt to place this case in condition for allowance. In light of the amendments and remarks set forth above, Applicant respectfully requests reconsideration and allowance of all of the pending claims.

No fees are believed to be due in connection with this Response. However, the Commissioner for Patents is hereby authorized to charge any fees due, or credit any overpayment, to Account No. 50-0221.

If there are matters that can be discussed by telephone to further the prosecution of this application, Applicant invites Examiner Rodgers to call the undersigned attorney at the Examiner's convenience.

Respectfully submitted,

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